

REMARKS

Claim Status

Applicant has added claim 72; amended claims 1, 4, 5, 12-14, 18, 19, 24, 26, 29, 43-49, 57, 62, and 64; and cancelled claims 2, 7, 9-11, 25, 27, 28, 30-42, 50-56, 58-61, 63, and 65-71. Claims 3, 6, 8, and 15-17 were cancelled by earlier amendments. Accordingly, claims 1, 4, 5, 12-14, 18-24, 26, 29, 43-49, 57, 62, 64, and 72 are pending. Applicant acknowledges, with thanks, the Examiner's allowance of claims 1, 4, 5, 7, 9-14, 18-23, 29, 43, 46-49, 57, and 60-69 in the Office Action mailed April 30, 2008.

Claims 1, 24, 26, 29, and 57 have been amended to more distinctly claim subject matter. Claims 1, 4, 5, 12-14, 26, 62, and 64 have been amended to recite "SEQ ID NO:" instead of "SEQ ID No" Claims 4, 5, 12, 18, 19, 29, 43, 46-49, 57, 62 and 64 have been amended to depend from new claim 72. Claims 4, 5, 14, 62, and 64 have also been amended to further vary in scope from claim 72. Claims 44 and 45 have been amended to depend from previously allowed claim 43. In Applicant's Amendment and Response filed February 4, 2008, claims 44 and 45 were recited as withdrawn since, as-filed, these claims incorrectly depended from withdrawn claim 40—drawn to non-elected restriction Group II, from the Restriction Requirement mailed April 25, 2007. Applicant respectfully requests the Examiner's consideration and allowance of these previously withdrawn claims, which read on the elected invention and depend from an allowed claim.

The claim amendments are fully supported by the application as-filed, for example, on page 6 lines 1-13; page 6 line 18- page 7, line 15; pages 53-55; page 61, lines 4-12; and original claims 1, 4-7, 14, 18-24, 43-49, and 57. In particular, page 61 of

the as-filed specification recites that secretion of the antigen genes *esxBA* (SEQ ID NOs: 17 and 18, encoding CFP-10 and ESAT-6, respectively) is predicted to require upstream genes Rv3868-Rv3871 (SEQ ID NOs:11-14) and downstream genes Rv3876 and Rv3877 (SEQ ID NOs: 19 and 20). Thus, new claim 72, which recites, *inter alia*, a strain comprising sequences corresponding to SEQ ID NOs: 17, 18, 11-14; and 19 and 20, is fully supported by the application as-filed. Accordingly, no new matter is added and entry of the Amendment is courteously solicited.

All claim amendments are made without prejudice and Applicant reserves the right to pursue cancelled subject matter in one or more continuing applications.

Examiner interview

Applicant wishes to thank the Examiner for his availability, courtesy, and helpful comments during a telephone interview on July 21, 2008. Proposed claim amendments were briefly discussed and Applicant's representative explained an unintentional error made in the Response filed February 4, 2008, during discussion of the Mahairas et al. reference. The error and the appropriate correction are further described and made of record *infra*. No final agreements were reached. Applicant thanks the Examiner for his indication that he would consider this Response.

Claim objection

Claim 2 has been cancelled, rendering the rejection moot.

Indefiniteness

Claims 24-26, 70, and 71 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. Claim 24 was alleged to be unclear as to how many cosmids were included in the claimed strain. Claim 24 has been amended to read on a strain comprising a single cosmid. Claim 26 was alleged to be unclear as to what "said cosmid corresponding to" referred to, i.e., an exact sequence or a variant. Claim 26 has been amended to recite that the strain comprises a nucleic acid having the sequence shown in SEQ ID NO:1. Claims 25, 70, and 71 have been cancelled, rendering their rejection moot.

Accordingly, withdrawal of the rejection and reconsideration of the claims are respectfully requested.

Anticipation and correction

Original claims 1-11, 15-17, 44, and 45 were rejected in the Office Action mailed October 3, 2007 under 35 U.S.C. § 102(b) as allegedly anticipated by Mahairas et al. *J. Bacteriol.* 178:1274-82 (1996). In response, on February 4, 2008, Applicant submitted amended claims and arguments averring that Mahairas et al. disclosed an approximately 9.5 kb sequence containing six genes that may be encompassed by the instant approximately 32 kb SEQ ID NO:1, but which did not disclose the entirety of SEQ ID NO:1. For example, Applicant submitted that Mahairas did not disclose a mycobacterium containing DNA comprising at least seven genes or fragments thereof selected from SEQ ID NOs:4-28, which are encompassed by SEQ ID NO:1.

While preparing the Response to the present Office Action, Applicant's representatives became aware that Mahairas et al. disclosed a larger, approximately 17.5 kb sequence, which still may be encompassed by SEQ ID NO:1 (see attached sequence alignment A) but includes more than six genes. Applicant's representatives apologize for this unintentional error, which was made in earnest, without deceptive intent, and was only realized during preparation of this Response. This error was brought to the Examiner's attention during the interview of July 21, 2008.

Nevertheless, as amended, the instant claims are not anticipated by Mahairas et al. Sequences that are contained in SEQ ID NO:1, but not disclosed in Mahairas et al., include, for example, instant SEQ ID NOS:4-12 and 28¹. See, e.g., attached sequence alignments. The pending claims all recite mycobacterium containing DNA sequences not taught by Mahairas et al. For example, Claim 1 requires a sequence corresponding to the entirety of SEQ ID NO:1 and thus comprises, e.g., SEQ ID NOS:4-12 and 28, which are not taught by Mahairas et al. New claim 72, from which the remaining claims depend, either directly or indirectly, requires the bacterium to comprise, *inter alia*, sequences corresponding to SEQ ID NOS:11 and 12, which are not taught by Mahairas

¹ The larger sequence of Mahairas et al., deposited under Genbank accession number U34848, corresponds, approximately, to nucleotides 11131-28578 of instant SEQ ID NO:1 (see attached sequence alignment A). Instant SEQ ID NO:13 corresponds to nucleotides 9673-11196 of SEQ ID NO:1 (see attached sequence alignment B) and SEQ ID NO:27 corresponds to nucleotides 28174-30030 (see attached sequence alignment C), and thus, are only partially overlapping with the sequence disclosed in Mahairas et al. Accordingly, instant SEQ ID NOS: 4-12 and 28 lie entirely outside of the region reported in Mahairas et al. Applicants note that WO 03/085098 is the international publication of PCT/IB03/01789, of which the instant application is a national stage entry under 35 U.S.C. § 371.

et al. Thus, Mahairas et al. does not teach all the elements of the instant claims and does not anticipate them.

CONCLUSION

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing all pending claims in condition for allowance. Applicant submits that the proposed amendments of the claims do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

Finally, Applicant submits that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing remarks, Applicant submits that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicant therefore requests the entry of this Amendment, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims. The Examiner is encouraged to contact the undersigned if it is believed that it would facilitate prosecution.

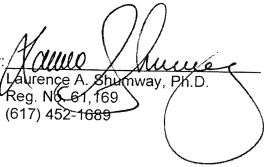
Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

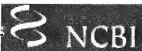
Dated: July 30, 2008

By:


Laurence A. Shumway, Ph.D.
Reg. No. 61,169
(617) 452-1689

Attachments:

- Sequence Alignment A
- Sequence Alignment B
- Sequence Alignment C



Blast 2 Sequences results

Alignment A

PubMed

Entrez

BLAST

OMIM

Taxonomy

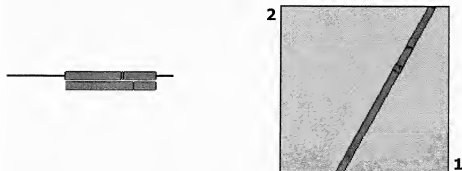
Structure

BLAST 2 SEQUENCES RESULTS VERSION BLASTN 2.2.18 [Mar-02-2008]

Match: Mismatch: gap open: gap extension:
 x_dropoff: expect: wordsize: Filter ☐ View option
 Masking character option Masking color option
☐ Show CDS translation

Sequence 1: gi|40247167|emb|AX926815.1| Sequence 1 from Patent WO03085098
 Length = 31808 (1 .. 31808)

Sequence 2: gi|1049222|gb|U34848.1| Mycobacterium bovis deletion region 1 Esat6 (esat6) gene,
 complete cds
 Length = 17499 (1 .. 17499)



NOTE:Bitscore and expect value are calculated based on the size of the nr database.

NOTE:If protein translation is reversed, please repeat the search with reverse strand of the query sequence.

Score = 3.322e+04 bits (17278), Expect = 0.0
 Identities = 17436/17500 (99%), Gaps = 53/17500 (0%)
 Strand=Plus/Plus

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Query 11191 CTCCTGCTCACCAGACTTCAAAGGTGGTTCAACCTTCCTGGGAATGGAAAAGCTTCCGCAC 11250
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Sbjct 61     CTCCTGCTCACCAGACTTCAAAGGTGGTTCAACCTTCCTGGGAATGGAAAAGCTTCCGCAC 120
  
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Sbjct	4261	AGACTTCCCGGCCACCCGGGCCGGAAGACTTGCCAACATTTTGGCGAGGAAGGTAAAGAG	4320
Query	15451	AGAAAGTAGTCCAGCATGGCAGAGATGAAGACCGATGCCGCTACCTTCGCGCAGGAGGCA	15510
Sbjct	4321	AGAAAGTAGTCCAGCATGGCAGAGATGAAGACCGATGCCGCTACCTTCGCGCAGGAGGCA	4380
Query	15511	GGTAATTTTCGAGCGGATCTCCGGCGACCTGAAAACCCAGATCGACCAGGTGGAGTCGACG	15570
Sbjct	4381	GGTAATTTTCGAGCGGATCTCCGGCGACCTGAAAACCCAGATCGACCAGGTGGAGTCGACG	4440
Query	15571	GCAGGTTTCGTTGCAGGGCCAGTGGCGCGGCGCGCGGGGACGGCCGCCAGGCCGCGGTG	15630
Sbjct	4441	GCAGGTTTCGTTGCAGGGCCAGTGGCGCGGCGCGCGGGGACGGCCGCCAGGCCGCGGTG	4500
Query	15631	GTGCGCTTCCAAGAAGCAGCCAATAAGCAGAAGCAGGAACTCGACGAGATCTCGACGAAT	15690
Sbjct	4501	GTGCGCTTCCAAGAAGCAGCCAATAAGCAGAAGCAGGAACTCGACGAGATCTCGACGAAT	4560
Query	15691	ATTCGTGAGGCCGCGCTCCAATACTCGAGGGCCGACGAGGAGCAGCAGCAGGCGCTGTCC	15750

Sbjct	4561	ATTCGTCAGGCCGGCGTCCAATACTCGAGGGCCGACGAGGAGCAGCAGCAGGCGCTGTCC	4620
Query	15751	TCGCAAAATGGGCTTCTGACCCGCTAATACGAAAAGAAACGGAGCAAAAACATGACAGAGC	15810
Sbjct	4621	TCGCAAAATGGGCTTCTGACCCGCTAATACGAAAAGAAACGGAGCAAAAACATGACAGAGC	4680
Query	15811	AGCAGTGGAAATTTTCGCGGGTATCGAGGCCGCGCAAGCGCAATCCAGGGAAATGTCACGT	15870
Sbjct	4681	AGCAGTGGAAATTTTCGCGGGTATCGAGGCCGCGCAAGCGCAATCCAGGGAAATGTCACGT	4740
Query	15871	CCATTCAATCCCTCCTTGACGAGGGGAAGCAGTCCCTGACCAAGCTCGCAGCGGCCTGGG	15930
Sbjct	4741	CCATTCAATCCCTCCTTGACGAGGGGAAGCAGTCCCTGACCAAGCTCGCAGCGGCCTGGG	4800
Query	15931	GCGGTAGCGGTTTCGGAGGCGTACCAGGGTGTCCAGCAAAAATGGGACGCCACGGCTACCG	15990
Sbjct	4801	GCGGTAGCGGTTTCGGAGGCGTACCAGGGTGTCCAGCAAAAATGGGACGCCACGGCTACCG	4860
Query	15991	AGCTGAACAACGCGCTGCAGAACCTGGCGCGGACGATCAGCGAAGCCGGTCAGGCAATGG	16050
Sbjct	4861	AGCTGAACAACGCGCTGCAGAACCTGGCGCGGACGATCAGCGAAGCCGGTCAGGCAATGG	4920
Query	16051	CTTCGACCGAAGGCAACGTCCTACTGGGATGTTTCGCATAGGGCAACGCCGAGTTCGCGTAGA	16110
Sbjct	4921	CTTCGACCGAAGGCAACGTCCTACTGGGATGTTTCGCATAGGGCAACGCCGAGTTCGCGTAGA	4980
Query	16111	ATAGCGAAACACGGGATCGGGCGAGTTCGACCTTCCGTCCGTCTCGCCCTTTCTCGTGTT	16170
Sbjct	4981	ATAGCGAAACACGGGATCGGGCGAGTTCGACCTTCCGTCCGTCTCGCCCTTTCTCGTGTT	5040
Query	16171	TATACGTTTGAGCGCACTCTGAGAGGTTGTTCATGGCGGCCGACTACGACAAGCTCTTCCG	16230
Sbjct	5041	TATACGTTTGAGCGCACTCTGAGAGGTTGTTCATGGCGGCCGACTACGACAAGCTCTTCCG	5100
Query	16231	GCCGCACGAAGGTATGGAAGCTCCGGACGATATGGCAGCGCAGCCGTTCTTCGACCCAG	16290
Sbjct	5101	GCCGCACGAAGGTATGGAAGCTCCGGACGATATGGCAGCGCAGCCGTTCTTCGACCCAG	5160
Query	16291	TGCTTCGTTTCCGCGCGCGCCGCATCGGCAAAACCTACCGAAGCCCAACGGCCAGACTCC	16350
Sbjct	5161	TGCTTCGTTTCCGCGCGCGCCGCATCGGCAAAACCTACCGAAGCCCAACGGCCAGACTCC	5220
Query	16351	GCCCCGACGTCGACGACCTGTTCGGAGCGGTTTCGTGTTCGCCCCCGCCGCCACCCCC	16410
Sbjct	5221	GCCCCGACGTCGACGACCTGTTCGGAGCGGTTTCGTGTTCGCCCCCGCCGCCACCCCC	5280
Query	16411	ACCCCCACCTCCGCCTCCGCCAACTCCGATGCCGATCGCCGAGGAGCCGCCCTCGCC	16470
Sbjct	5281	ACCCCCACCTCCGCCTCCGCCAACTCCGATGCCGATCGCCGAGGAGCCGCCCTCGCC	5340

Blast Result

Query	16471	GGAACCGGCCGCATCTAAACCACCCACACCCCCCATGCCCATCGCCGGACCCGAACCGGC	16530
Sbjct	5341	GGAACCGGCCGCATCTAAACCACCCACACCCCCCATGCCCATCGCCGGACCCGAACCGGC	5400
Query	16531	CCCACCCAACCACCCACACCCCCCATGCCCATCGCCGGACCCGAACCGGCCCCACCCAA	16590
Sbjct	5401	CCCACCCAACCACCCACACCCCCCATGCCCATCGCCGGACCCGAACCGGCCCCACCCAA	5460
Query	16591	ACCACCACACCTCCGATGCCCATCGCCGGACCTGCACCCACCCCAACCGAATCCAGTT	16650
Sbjct	5461	ACCACCACACCTCCGATGCCCATCGCCGGACCTGCACCCACCCCAACCGAATCCAGTT	5520
Query	16651	GGCGCCCCCAGACCACCGACACCACAAACGCCAACCGGAGCGCCGAGCAACCGGAATC	16710
Sbjct	5521	GGCGCCCCCAGACCACCGACACCACAAACGCCAACCGGAGCGCCGAGCAACCGGAATC	5580
Query	16711	ACCGGCGCCCCACGTACCTCGCACGGGCCACATCAACCCCGGCGCACCGCACCGACACC	16770
Sbjct	5581	ACCGGCGCCCCACGTACCTCGCACGGGCCACATCAACCCCGGCGCACCGCACCGACACC	5640
Query	16771	GCCCTGGGCAAAGATGCCAATCGCGGAACCCCCGCCCGCTCCGTCCAGACCGTCTGCGTC	16830
Sbjct	5641	GCCCTGGGCAAAGATGCCAATCGCGGAACCCCCGCCCGCTCCGTCCAGACCGTCTGCGTC	5700
Query	16831	CCCGGCCGAACCACCGACCCGGCCTGCCCCCAACACTCCCGACGTGCGCGCCGGGGTCA	16890
Sbjct	5701	CCCGGCCGAACCACCGACCCGGCCTGCCCCCAACACTCCCGACGTGCGCGCCGGGGTCA	5760
Query	16891	CCGCTATCGCACAGACACCGAACGAAACGTCGGGAAGGTAGCAACTGGTCCATCCATCCA	16950
Sbjct	5761	CCGCTATCGCACAGACACCGAACGAAACGTCGGGAAGGTAGCAACTGGTCCATCCATCCA	5820
Query	16951	GGCGCGGCTGCGGGCAGAGGAAGCATCCGGCGCGCAGCTCGCCCCGGAACGGAGCCCTC	17010
Sbjct	5821	GGCGCGGCTGCGGGCAGAGGAAGCATCCGGCGCGCAGCTCGCCCCGGAACGGAGCCCTC	5880
Query	17011	GCCAGCGCCGTTGGGCCAACCGAGATCGTATCTGGCTCCGCCACCCGCCCGCGCCGAC	17070
Sbjct	5881	GCCAGCGCCGTTGGGCCAACCGAGATCGTATCTGGCTCCGCCACCCGCCCGCGCCGAC	5940
Query	17071	AGAACCTCCCCCAGCCCTCGCCGCGAGCGCAACTCCGGTCGGCGTGCCGAGCGACGCGT	17130
Sbjct	5941	AGAACCTCCCCCAGCCCTCGCCGCGAGCGCAACTCCGGTCGGCGTGCCGAGCGACGCGT	6000
Query	17131	CCACCCCGATTAGCCGCCCAACATGCCGCGGCGCAACCTGATTCAATTACGGCCGCAAC	17190
Sbjct	6001	CCACCCCGATTAGCCGCCCAACATGCCGCGGCGCAACCTGATTCAATTACGGCCGCAAC	6060
Query	17191	CACTGGCGGTGCTGCGCGCAAGCGTGCAGCGCCGGATCTCGACGCGACAGAAATCCTT	17250

Sbjct	6061	 CACTGGCGGTCGTCGCCGCAAGCGTGCAGCGCCGGATCTCGACGCGACACAGAAATCCTT	6120
Query	17251	AAGGCCGGCGGCCAAGGGGCCGAAGGTGAAGAAGGTGAAGCCCCAGAAACCGAAGGCCAC	17310
Sbjct	6121	AAGGCCGGCGGCCAAGGGGCCGAAGGTGAAGAAGGTGAAGCCCCAGAAACCGAAGGCCAC	6180
Query	17311	GAAGCCGCCCAAAGTGGTGTGCGACGCGGCTGGCGACATTGGGTGCATGCGTTGACGCG	17370
Sbjct	6181	GAAGCCGCCCAAAGTGGTGTGCGACGCGGCTGGCGACATTGGGTGCATGCGTTGACGCG	6240
Query	17371	AATCAACCTGGGCCTGTACCCGACGAGAAGTACGAGCTGGACCTGCACGCTCGAGTCCG	17430
Sbjct	6241	AATCAACCTGGGCCTGTACCCGACGAGAAGTACGAGCTGGACCTGCACGCTCGAGTCCG	6300
Query	17431	CCGCAATCCCCGCGGGTCGTATCAGATCGCCGTCGTGGTCTCAAAGGTGGGGCTGGCAA	17490
Sbjct	6301	CCGCAATCCCCGCGGGTCGTATCAGATCGCCGTCGTGGTCTCAAAGGTGGGGCTGGCAA	6360
Query	17491	AACCACGCTGACAGCAGCGTTGGGGTCGACGTTGGGCTCAGGTGCGGGCCGACCGGATCCT	17550
Sbjct	6361	AACCACGCTGACAGCAGCGTTGGGGTCGACGTTGGGCTCAGGTGCGGGCCGACCGGATCCT	6420
Query	17551	GGCTCTAGACGCGGATCCAGGCGCCGGAACCTCGCCGATCGGGTAGGGCGACAATCGGG	17610
Sbjct	6421	GGCTCTAGACGCGGATCCAGGCGCCGGAACCTCGCCGATCGGGTAGGGCGACAATCGGG	6480
Query	17611	CGCGACCATCGCTGATGTGCTTGCAGAAAAAGAGCTGTCGCACTACAACGACATCCGCGC	17670
Sbjct	6481	CGCGACCATCGCTGATGTGCTTGCAGAAAAAGAGCTGTCGCACTACAACGACATCCGCGC	6540
Query	17671	ACACACTAGCGTCAATGCGGTCAATCTGGAAGTGCTGCCGGCACCAGGAATACAGCTCGGC	17730
Sbjct	6541	ACACACTAGCGTCAATGCGGTCAATCTGGAAGTGCTGCCGGCACCAGGAATACAGCTCGGC	6600
Query	17731	GCAGCGCGCGCTCAGCGACGCCGACTGGCATTTCATCGCCGATCCTGCGTCGAGGTTTTA	17790
Sbjct	6601	GCAGCGCGCGCTCAGCGACGCCGACTGGCATTTCATCGCCGATCCTGCGTCGAGGTTTTA	6660
Query	17791	CAACCTCGTCTTGCTGATTGTGGGGCCGGCTTCTTCGACCCGCTGACCCGCGGCGTGCT	17850
Sbjct	6661	CAACCTCGTCTTGCTGATTGTGGGGCCGGCTTCTTCGACCCGCTGACCCGCGGCGTGCT	6720
Query	17851	GTCCACGGTGTCCGGTGTCTGGTGTGCGCAAGTGTCTCAATCGACGGCGCACAAACAGGC	17910
Sbjct	6721	GTCCACGGTGTCCGGTGTCTGGTGTGCGCAAGTGTCTCAATCGACGGCGCACAAACAGGC	6780
Query	17911	GTCGGTCGCGTTGGACTGGTTGCGCAACACGGTTACCAAGATTGGGCGAGCCGCGCATG	17970
Sbjct	6781	GTCGGTCGCGTTGGACTGGTTGCGCAACACGGTTACCAAGATTGGGCGAGCCGCGCATG	6840

Query	17971	CGTGGTCATCAATCACATCATGCCGGGAGAACCCAATGTCGCAGTTAAAGACCTGGTGCG 	18030
Sbjct	6841	CGTGGTCATCAATCACATCATGCCGGGAGAACCCAATGTCGCAGTTAAAGACCTGGTGCG 	6900
Query	18031	GCATTTCGAACAGCAAGTTCAACCCGGCCGGGTCGTGGTCATGCCGTGGGACAGGCACAT 	18090
Sbjct	6901	GCATTTCGAACAGCAAGTTCAACCCGGCCGGGTCGTGGTCATGCCGTGGGACAGGCACAT 	6960
Query	18091	TGCGGCCGGAACCGAGATTTCACCTCGACTTGCTCGACCCTATCTACAAGCGCAAGGTCCT 	18150
Sbjct	6961	TGCGGCCGGAACCGAGATTTCACCTCGACTTGCTCGACCCTATCTACAAGCGCAAGGTCCT 	7020
Query	18151	CGAATTGGCCGAGCGCTATCCGACGATTCGAGAGGGCTGGACGTCGTGAGCGCACCT 	18210
Sbjct	7021	CGAATTGGCCGAGCGCTATCCGACGATTCGAGAGGGCTGGACGTCGTGAGCGCACCT 	7080
Query	18211	GCTGTTGCTGCTGGTCCTACCGCCGCGGGGCAACCGCTGCGCGGCCTGCCACCACCCGG 	18270
Sbjct	7081	GCTGTTGCTGCTGGTCCTACCGCCGCGGGGCAACCGCTGCGCGGCCTGCCACCACCCGG 	7140
Query	18271	GTGACGATCCTGACCGGCAGACGGATGACCGATTGGTACTGCCAGCGCGGTGCCGATG 	18330
Sbjct	7141	GTGACGATCCTGACCGGCAGACGGATGACCGATTGGTACTGCCAGCGCGGTGCCGATG 	7200
Query	18331	GAAACTTATATTGACGACACCGTCGCGGTGCTTTCCGAGGTGTTGGAAGACACGCCGGCT 	18390
Sbjct	7201	GAAACTTATATTGACGACACCGTCGCGGTGCTTTCCGAGGTGTTGGAAGACACGCCGGCT 	7260
Query	18391	GATGTACTCGGCGGCTTCGACTTTACCGCGCAAGGCGTGTGGGCGTTCGCTCGTCCCGGA 	18450
Sbjct	7261	GATGTACTCGGCGGCTTCGACTTTACCGCGCAAGGCGTGTGGGCGTTCGCTCGTCCCGGA 	7320
Query	18451	TCGCCGCCGCTGAAGCTCGACCACTCGATGACGCCGGGTGGTCGACGGGTCCTG 	18510
Sbjct	7321	TCGCCGCCGCTGAAGCTCGACCACTCGATGACGCCGGGTGGTCGACGGGTCCTG 	7380
Query	18511	CTGACTCTGGTGTCAGTCAGTCGCACCGAGCGTACCGACCGTTGGTCGAGGATGTCATC 	18570
Sbjct	7381	CTGACTCTGGTGTCAGTCAGTCGCACCGAGCGTACCGACCGTTGGTCGAGGATGTCATC 	7440
Query	18571	GACGCGATCGCCGTGCTTGACGAGTCACCTGAGTTCGACCGCACGGCATTGAATCGCTTT 	18630
Sbjct	7441	GACGCGATCGCCGTGCTTGACGAGTCACCTGAGTTCGACCGCACGGCATTGAATCGCTTT 	7500
Query	18631	GTGGGGGCGCGCATCCCGCTTTTGACCGCGCCCGTCATCGGGATGGCGATGCGGGCGTGG 	18690
Sbjct	7501	GTGGGGGCGCGCATCCCGCTTTTGACCGCGCCCGTCATCGGGATGGCGATGCGGGCGTGG 	7560
Query	18691	TGGGAAACTGGGCGTAGCTTGTTGGTGGCCGTTGGCGATTGGCATCCTGGGGATCGCTGTG 	18750

Sbjct	7561	 TGGGAAACTGGGCGTAGCTTGTGGTGGCCGTTGGCGATTGGCATCCTGGGGATCGCTGTG	7620
Query	18751	CTGGTAGGCAGCTTCGTCGCGAACAGGTTCTACCAGAGCGGCCACCTGGCCGAGTGCCTA 	18810
Sbjct	7621	CTGGTAGGCAGCTTCGTCGCGAACAGGTTCTACCAGAGCGGCCACCTGGCCGAGTGCCTA	7680
Query	18811	CTGGTCACGACGTATCTGTGATCGCAACCGCCGAGCGCTGGCCGTGCCGTTGCCGCGC 	18870
Sbjct	7681	CTGGTCACGACGTATCTGTGATCGCAACCGCCGAGCGCTGGCCGTGCCGTTGCCGCGC	7740
Query	18871	GGGGTCAACTCGTTGGGGGCGCCACAAGTTGCCGCGCGCCGCTACGGCCGTGCTGTTTTTG 	18930
Sbjct	7741	GGGGTCAACTCGTTGGGGGCGCCACAAGTTGCCGCGCGCCGCTACGGCCGTGCTGTTTTTG	7800
Query	18931	ACCTTGATGACGCGGGGCGGCCCTCGGAAGCGTCATGAGTTGGCGTCGTTTGCCGTGATC 	18990
Sbjct	7801	ACCTTGATGACGCGGGGCGGCCCTCGGAAGCGTCATGAGTTGGCGTCGTTTGCCGTGATC	7860
Query	18991	ACCGCTATCGCGGTTCATCGCGGCCGCCGCTGCCTTCGGCTATGGATACCAGGACTGGGTC 	19050
Sbjct	7861	ACCGCTATCGCGGTTCATCGCGGCCGCCGCTGCCTTCGGCTATGGATACCAGGACTGGGTC	7920
Query	19051	CCCGGGGGGGGATCGCATTTCGGGCTGTTTCATTGTGACGAATGCGGCCAAGCTGACCGTC 	19110
Sbjct	7921	CCCGGGGGGGGATCGCATTTCGGGCTGTTTCATTGTGACGAATGCGGCCAAGCTGACCGTC	7980
Query	19111	GCGGTCGCGCGGATCGCGCTGCCGCCGATTCCGGTACCCGGCGAAACCGTGGACAACGAG 	19170
Sbjct	7981	GCGGTCGCGCGGATCGCGCTGCCGCCGATTCCGGTACCCGGCGAAACCGTGGACAACGAG	8040
Query	19171	GAGTTGCTCGATCCCGTCGCGACCCCGGAGGCTACCAGCGAAGAAACCCGACCTGGCAG 	19230
Sbjct	8041	GAGTTGCTCGATCCCGTCGCGACCCCGGAGGCTACCAGCGAAGAAACCCGACCTGGCAG	8100
Query	19231	GCCATCATCGCGTCGGTGCCCGCGTCCGCGGTCGGGCTCACCAGAGCGCAGCAAACCTGGCC 	19290
Sbjct	8101	GCCATCATCGCGTCGGTGCCCGCGTCCGCGGTCGGGCTCACCAGAGCGCAGCAAACCTGGCC	8160
Query	19291	AAGCAACTTCTGATCGGATACGTACGTCGGGCACCTGATTCTGGCTGCCGTTGCCATC 	19350
Sbjct	8161	AAGCAACTTCTGATCGGATACGTACGTCGGGCACCTGATTCTGGCTGCCGTTGCCATC	8220
Query	19351	GCGGTCGTGGTGCGCGGGCACTTCTTTGTACACAGCCTGGTGGTCGCGGGTTTGATCACG 	19410
Sbjct	8221	GCGGTCGTGGTGCGCGGGCACTTCTTTGTACACAGCCTGGTGGTCGCGGGTTTGATCACG	8280
Query	19411	ACCGTCTGCGGATTTCGCTCGCGGCTTTACGCCAGCGCTGGTGTGCGTGGGCGTTGCTG 	19470
Sbjct	8281	ACCGTCTGCGGATTTCGCTCGCGGCTTTACGCCAGCGCTGGTGTGCGTGGGCGTTGCTG	8340

Query	19471	GCGGCGACGGTCGCGATTCCGACGGGTCTGACGGCCAAACTCATCATCTGGTACCCGCAC 	19530
Sbjct	8341	GCGGCGACGGTCGCGATTCCGACGGGTCTGACGGCCAAACTCATCATCTGGTACCCGCAC 	8400
Query	19531	TATGCCTGGCTGTTGTTGAGCGTCTACCTCACGGTAGCCCTGGTTGCGCTCGTGGTGGTC 	19590
Sbjct	8401	TATGCCTGGCTGTTGTTGAGCGTCTACCTCACGGTAGCCCTGGTTGCGCTCGTGGTGGTC 	8460
Query	19591	GGGTCGATGGCTACGTCGCGCGGCTTTCACCGGTCGTAAACGAACTCTGGAATTGATC 	19650
Sbjct	8461	GGGTCGATGGCTACGTCGCGCGGCTTTCACCGGTCGTAAACGAACTCTGGAATTGATC 	8520
Query	19651	GACGGCGCCATGATCGCTGCCATCATTCACCATGCTGCTGTGGATCACCGGGGTGTACGAC 	19710
Sbjct	8521	GACGGCGCCATGATCGCTGCCATCATTCACCATGCTGCTGTGGATCACCGGGGTGTACGAC 	8580
Query	19711	ACGGTCCGCAATATCCGGTTCTGAGCCGGATCGGCTGATTGGCGGTTCTGACAGAACAT 	19770
Sbjct	8581	ACGGTCCGCAATATCCGGTTCTGAGCCGGATCGGCTGATTGGCGGTTCTGACAGAACAT 	8640
Query	19771	CGAGGACACGGCGCAGGTTTGATACCTTCGGCGCCCCGACAAATTGCTGCGATTGAGCGT 	19830
Sbjct	8641	CGAGGACACGGCGCAGGTTTGATACCTTCGGCGCCCCGACAAATTGCTGCGATTGAGCGT 	8700
Query	19831	GTGGCGCGTCCGGTAAAAATTTGCTCGATGGGGAACACGTATAGGAGATCCGGCAATGGCT 	19890
Sbjct	8701	GTGGCGCGTCCGGTAAAAATTTGCTCGATGGGGAACACGTATAGGAGATCCGGCAATGGCT 	8760
Query	19891	GAACCGTTGGCCGTGATCCACCGGCTTGAGCGCAGCGGCCGCGAAATTGGCCGGCCTC 	19950
Sbjct	8761	GAACCGTTGGCCGTGATCCACCGGCTTGAGCGCAGCGGCCGCGAAATTGGCCGGCCTC 	8820
Query	19951	GTTTTTCGCGAGCCTCCGGCGCCGATCGCGGTACGCGAACGGATTCCGGTGGTAGCAGCA 	20010
Sbjct	8821	GTTTTTCGCGAGCCTCCGGCGCCGATCGCGGTACGCGAACGGATTCCGGTGGTAGCAGCA 	8880
Query	20011	ATCAACGAGACCATGCCAAGCATCGAATCGCTGGTCAGTGACGGGCTGCCGCGGTGAAA 	20070
Sbjct	8881	ATCAACGAGACCATGCCAAGCATCGAATCGCTGGTCAGTGACGGGCTGCCGCGGTGAAA 	8940
Query	20071	GCCGCCCTGACTCGAACAGCATCCAACATGAACGCGCGCGGACGCTCTATGCGAAGACC 	20130
Sbjct	8941	GCCGCCCTGACTCGAACAGCATCCAACATGAACGCGCGCGGACGCTCTATGCGAAGACC 	9000
Query	20131	GATCAGTCACTGGGAACAGTTTGAGCCAGTATGCATTTCGGCTCGTCGGGCGAAGGCCTG 	20190
Sbjct	9001	GATCAGTCACTGGGAACAGTTTGAGCCAGTATGCATTTCGGCTCGTCGGGCGAAGGCCTG 	9060

Query	20191	GCTGGCGTCGCCTCGGTGGTGGTCAGCCAAGTCAGGCTACCCAGCTGCTGAGCACACCC	20250
Sbjct	9061	GCTGGCGTCGCCTCGGTGGTGGTCAGCCAAGTCAGGCTACCCAGCTGCTGAGCACACCC	9120
Query	20251	GTGTACACAGGTCACGACCCAGCTCGGCGAGACGGCCGCTGAGCTGGCACCCTGTTGTT	20310
Sbjct	9121	GTGTACACAGGTCACGACCCAGCTCGGCGAGACGGCCGCTGAGCTGGCACCCTGTTGTT	9180
Query	20311	GCGACGGTGCCGCAACTCGTTCAGCTGGCTCCGCACGCCGTTTCAGATGTCGCAAAACGCA	20370
Sbjct	9181	GCGACGGTGCCGCAACTCGTTCAGCTGGCTCCGCACGCCGTTTCAGATGTCGCAAAACGCA	9240
Query	20371	TCCCCCATCGCTCAGACGATCAGTCAAACCGCCCAACAGGCCGCCAGAGCGCGCAGGGC	20430
Sbjct	9241	TCCCCCATCGCTCAGACGATCAGTCAAACCGCCCAACAGGCCGCCAGAGCGCGCAGGGC	9300
Query	20431	GGCAGCGGCCCAATGCCCGCACAGCTTGCCAGCGCTGAAAAACCGGCCACCGAGCAAGCG	20490
Sbjct	9301	GGCAGCGGCCCAATGCCCGCACAGCTTGCCAGCGCTGAAAAACCGGCCACCGAGCAAGCG	9360
Query	20491	GAGCCGGTCCACGAAGTGACAAACGACGATCAGGGCGACCAGGGCGACGTGCAGCCGGCC	20550
Sbjct	9361	GAGCCGGTCCACGAAGTGACAAACGACGATCAGGGCGACCAGGGCGACGTGCAGCCGGCC	9420
Query	20551	GAGGTCGTTGCCGCGGCACGTGACGAAGGCGCCGGCGCATCACCAGGGCCAGCAGCCGGC	20610
Sbjct	9421	GAGGTCGTTGCCGCGGCACGTGACGAAGGCGCCGGCGCATCACCAGGGCCAGCAGCCGGC	9480
Query	20611	GGGGCGGTTCCCGCGCAAGCCATGGATACCGGAGCCGGTGCCCGCCAGCGGCGAGTCCG	20670
Sbjct	9481	GGAGGCGTTCCCGCGCAAGCCATGGATACCGGAGCCGGTGCCCGCCAGCGGCGAGTCCG	9540
Query	20671	CTGGCGGCCCCCGTCGATCCGTCGACTCCGGCACCCCTCAACAACCACAACGTTGTAGACC	20730
Sbjct	9541	CTGGCGGCCCCCGTCGATCCGTCGACTCCGGCACCCCTCAACAACCACAACGTTGTAGACC	9600
Query	20731	GGGCCTGCCAGCGGCTCCGTCTCGCACGCAGCGCTGTTGCTGTCTTGGCCTCGTCAGCA	20790
Sbjct	9601	GGGCCTGCCAGCGGCTCCGTCTCGCACGCAGCGCTGTTGCTGTCTTGGCCTCGTCAGGA	9660
Query	20791	TGCGGCGGCCAGGGCCCGGTGAGCAACCCGGTGACGTATTGCCAGTACAGCCAGTCCGC	20850
Sbjct	9661	TGCGGCGGCCAGGGCCCGGTGAGCAACCCGGTGACGTATTGCCAGTACAGCCAGTCCGC	9720
Query	20851	GACGGCCACACGCTGGACGCGCCGCTCAGTCGCAGTGTGCGCTTGGTGCAGGGCAATCTC	20910
Sbjct	9721	GACGGCCACACGCTGGACGCGCCGCTCAGTCGCAGTGTGCGCTTGGTGCAGGGCAATCTC	9780
Query	20911	CTGTGAGTGGGAGCGTAGGCCCCGAACGCCCGCAGATGAGCGGCCTCGCGGCCGCTAGC	20970

Sbjct	9781	CTGTGAGTGGGCAGCGTAGGCCCGGAACGCCCGCAGATGAGCGGCCTCGCGCCGGTAGC	9840
Query	20971	GGTGCTGGTCATGGGCTTCATCAGCTCGAACCACAGCATGTGCCGCTCATCGCCCGGTGG	21030
Sbjct	9841	GGTGCTGGTCATGGGCTTCATCAGCTCGAACCACAGCATGTGCCGCTCATCGCCCGGTGG	9900
Query	21031	ATTGACATCCACCGCGCCGCGGGCAACAAGTCGAGCAACAGCTGATCGGTAGTGTGCGG	21090
Sbjct	9901	ATTGACATCCACCGCGCCGCGGGCAACAAGTCGAGCAACAGCTGATCGGTAGTGTGCGG	9960
Query	21091	CAGCTGAGCCGCCGCGAGGGGTCGACGACCTCCAGCCGCGACCGGCCCGTCATTTTGCC	21150
Sbjct	9961	CAGCTGAGCCGCCGCGAGGGGTCGACGACCTCCAGCCGCGACCGGCCCGTCATTTTGCC	10020
Query	21151	GCTCTCCGGAATGTCATCTGGCTCCAGCACAATCTTGGCCACACCGGGATCCGAAGTGGC	21210
Sbjct	10021	GCTCTCCGGAATGTCATCTGGCTCCAGCACAATCTTGGCCACACCGGGATCCGAAGTGGC	10080
Query	21211	CAACTGCTCCGCGGTACCGATCACCGCCCGCAGCGTCATGTCGTGGAAAGCCGCCAGGC	21270
Sbjct	10081	CAACTGCTCCGCGGTACCGATCACCGCCCGCAGCGTCATGTCGTGGAAAGCCGCCAGGC	10140
Query	21271	TTGCACGGCCAAAACCGGGTAGGTGGCACAGCGTGCAATTTTCGTCACCGGGATTGCGTG	21330
Sbjct	10141	TTGCACGGCCAAAACCGGGTAGGTGGCACAGCGTGCAATTTTCGTCACCGGGATTGCGTG	10200
Query	21331	ATCCGCGCTGGCCAAGTACACCTTATTCGGCAATTCATCCCGTCGGGTATGTAGGCCAG	21390
Sbjct	10201	ATCCGCGCTGGCCAAGTACACCTTATTCGGCAATTCATCCCGTCGGGTATGTAGGCCAG	10260
Query	21391	CCCATAGCTGTTGGCCACGACGATGGAACCGTCGGTGGTCACCGCGGTGATCCAGAAGAA	21450
Sbjct	10261	CCCATAGCTGTTGGCCACGACGATGGAACCGTCGGTGGTCACCGCGGTGATCCAGAAGAA	10320
Query	21451	CCCGTAGTCGCCCCGCGTTGTTGTCGGACGCGTTGAGCGCCGCCGCGATGCGTCGCGCCAA	21510
Sbjct	10321	CCCGTAGTCGCCCCGCGTTGTTGTCGGACGCGTTGAGCGCCGCCGCGATGCGTCGCGCCAA	10380
Query	21511	CCGACGCGCATCACCGCGGCCACGCTGGCGGGCGCTGGCAGCTGCGATGGCGGCGTCGCG	21570
Sbjct	10381	CCGACGCGCATCACCGCGGCCACGCTGGCGGGCGCTGGCAGCTGCGATGGCGGCGTCGCG	10440
Query	21571	TGCCGCCCAGCGCCGACACCGGGATCATCGACACCGCGTACCGTCATCTGCAGACTC	21630
Sbjct	10441	TGCCGCCCAGCGCCGACACCGGGATCATCGACACCGCGTACCGTCATCTGCAGACTC	10500
Query	21631	GCTGCGATCGGGTTTGTGATGTGATCGGTCGACGGCGGGCGGAGAGGTGCCGTCCG	21690
Sbjct	10501	GCTGCGATCGGGTTTGTGATGTGATCGGTCGACGGAGGGCGGAGAGGTGCCGTCCG	10560

Query	21691	CGCCGAGGCCGCCCGCGTGTCTCGGTGCCGCCGCCCTTGTCAGGAGTAGCCACCGGCGCCCG	21750
Sbjct	10561	CGCCGAGGCCGCCCGCGTGTCTCGGTGCCGCCGCCCTTGTCAGGAGTAGCCACCGGCGCCCG	10620
Query	21751	CCCAGTGGCAGCATGCGACCCCGCGCCGAGGCCGCGGCCGTACCCACGCTCGAACGCGC	21810
Sbjct	10621	CCCAGTGGCAGCATGCGACCCCGCGCCGAGGCCGCGGCCGTACCCACGCTCGAACGCGC	10680
Query	21811	GCCCGCTCCACGGCGGTACCG-----CTCGGCGCGGCGGCCGCCGCCCGTGCGCCCGG	21864
Sbjct	10681	GCCCGCTCCACGGCGGTACCGGTACCGCTCGGCGCGGCGGCCGCCGCCCGTGCGCCCGG	10740
Query	21865	GACACCGGACGCCGAGCCGGCGTACCGACGCGGCGGATTTCGTCGCGATGGGCAGGCC	21924
Sbjct	10741	GACACCGGACGCCGAGCCGGCGTACCGACGCGGCGGATTTCGTCGCGATGGGCAGGCC	10800
Query	21925	CGACTGCGTCCCCCGCCCGCATGTGCCCCGGCACACCAGGTTGCTCCGCCAACGCCGC	21984
Sbjct	10801	CGACTGCGTCCCCCGCCCGCATGTGCCCCGGCACACCAGGTTGCTCCGCCAACGCCGC	10860
Query	21985	GGGTTTGACGTGCGGGCGCCGGCTCGCCCCCTGGGGTGCCCGGTGTTGCTGGACCAGACGG	22044
Sbjct	10861	GGGTTTGACGTGCGGGCGCCGGCTCGCCCCCTGGGGTGCCCGGTGTTGCTGGACCAGACGG	10920
Query	22045	ACCGGGAGTGCCCGGTGTAACCGGCTGGGGCCAGGCGATGGCGCCGGTGCCGGAGCCGG	22104
Sbjct	10921	ACCGGGAGTGCCCGGTGTAACCGGCTGGGGCCAGGCGATGGCGCCGGTGCCGGAGCCGG	10980
Query	22105	CTGCGGGTGTTGAGCGGGAGCTGGGGTAACGGGCGTGCCGGGGTTGCCGGTGTTGCCGG	22164
Sbjct	10981	CTGCGGGTGTTGAGCGGGAGCTGGGGTAACGGGCGTGCCGGGGTTGCCGGTGTTGCCGG	11040
Query	22165	GGCGACCGGGGGGTGACCGGCGTGATCGGGGTTGGCTCGCCTGGTGTCGCCGGTTTGAC	22224
Sbjct	11041	GGCGACCGGGGGGTGACCGGCGTGATCGGGGTTGGCTCGCCTGGTGTCGCCGGTTTGAC	11100
Query	22225	CGGGGTACACGGGGTGACCGGCTTGCCCGGGGTACACGGCGTGACGGGAGTGCCGGGCGT	22284
Sbjct	11101	CGGGGTACACGGGGTGACCGGCTTGCCCGGGGTACACGGCGTGACGGGAGTGCCGGGCGT	11160
Query	22285	TGGTGTGATCGGAGTTACCGGCGCTCCCGGGATGGGTGTGATTGGGGTTCCCGGGGTGA-	22343
Sbjct	11161	TGGTGTGATCGGAGTTACCGGCGCTCCCGGGATGGGTGTGATTGGGGTTCCCGGGGTGAT	11220
Query	22344	-----TCGGGGTTCCCGGG-----GTGATCGGGGT	22368
Sbjct	11221	CGGGATTCCCGGCGTGATCGGGGTTCCCGGGGTGATCGGGGTTCCCGGCGTGATCGGGGT	11280
Query	22369	TCCCGGTGTGCCCGGTGTG-----CCCGGGATGGCACGACCAGGATAGGCACGTC	22419

Sbjct	11281	TCCCGGTGTGCCCGGTGTGCCCGGTGTGCCCGGGGATGGCAGCACCAGGGTAGGCACGTC	11340
Query	22420	TGGGGGTGGCGGCGACTTCTGCTGAAGCAAATCCTCGAGTGCCTTCTTCGGAGGTTTCCA	22479
Sbjct	11341	TGGGGGTGGCGGCGACTTCTGCTGAAGCAAATCCTCGAGTGCCTTCTTCGGAGGTTTCCA	11400
Query	22480	ATTCTTGGATTCCAGCACCCGCTCAGCGGTCTCGGCGACCAGACTGACATTGGCCCCATG	22539
Sbjct	11401	ATTCTTGGATTCCAGCACCCGCTCAGCGGTCTCGGCGACCAGACTGACATTGGCCCCATG	11460
Query	22540	CGTCGCCGTGACCAATGAATTGATGGCGGTATGGCGCTCATCAGCATCCAGGCTAGGGTC	22599
Sbjct	11461	CGTCGCCGTGACCAATGAATTGATGGCGGTATGGCGCTCATCAGCATCCAGGCTAGAGTC	11520
Query	22600	ATTCTCCAGGATATCGATCTCCCGTTGAGCGCCATCCACATTATTGCCGATATCGGATTT	22659
Sbjct	11521	ATTCTCCAGGATATCGATCTCCCGTTGAGCGCCATCCACATTATTGCCGATATCGGATTT	11580
Query	22660	AGCTTGCTCAATCAACCCGGCAATATGCCGTGTGCCAGGTAATCACCGTGGCGAGATAATC	22719
Sbjct	11581	AGCTTGCTCAATCAACCCGGCAATATGCCGTGTGCCAGGTAATCACCGTGGCGAGATAATC	11640
Query	22720	CTGCAGCGTCATCAATTGATTGATGTTTGACCCAGGGCGCCGTTGGCAGCATTGGCGGC	22779
Sbjct	11641	CTGCAGCGTCATCAATTGATTGATGTTTGACCCAGGGCGCCGTTGGCAGCATTGGCGGC	11700
Query	22780	GCCGCCGGACCATAGGCCGCCCTTCGAAGACGTGGCCTTTCTGCTGGCGGCAGGTGTCCAA	22839
Sbjct	11701	GCCGCCGGACCATAGGCCGCCCTTCGAAGACGTGGCCTTTCTGCTGGCGGCAGGTGTCCAA	11760
Query	22840	TACATCGGTGACCCTTTGCAAAACCTGGCTATATTCTGGGCCCGGTATAGAAAGTGTC	22899
Sbjct	11761	TACATCGGTGACCCTTTGCAAAACCTGGCTATATTCTGGGCCCGGTATAGAAAGTGTC	11820
Query	22900	TTCATCGGCTTCCACCCAGCCGCCGGATCCAGCATCTGTCTGGCATAGCTGCCCGTCGG	22959
Sbjct	11821	TTCATCGGCTTCCACCCAGCCGCCGGATCCAGCATCTGTCTGGCATAGCTGCCCGTCGG	11880
Query	22960	CCTGGTAATACTCATCCCTACTGCCCTCCCCAAACGCCAGATCGCCTCGCGGATCACC	23019
Sbjct	11881	CCTGGTAATACTCATCCCTACTGCCCTCCCCAAACGCCAGATCGCCTCGCGGATCACC	11940
Query	23020	GTCCGGTTGGCCTCCGGCATTTCACGCCGGCTCGGCCGCTGGATCCACCCCGCGCCGGTA	23079
Sbjct	11941	GTCCGGTTGGCCTCCGGCATTTCACGCCGGCTCGGCCGCTGGATCCACCCCGCGCCGGTA	12000
Query	23080	TTGCGAGTAACCCGTTGAATCCGCGCGCATGATGCACCGCTTGGGCGATCAGCCGGGTGG	23139
Sbjct	12001	TTGCGAGTAACCCGTTGAATCCGCGCGCATGATGCACCGCTTGGGCGATCAGCCGGGTGG	12060

Query	23140	TCACCTCGCTTGCGCTGGCCGCGCTGTCGCACGGGGCGCTCGGTGGTAACGGACGTCATA	23199
Sbjct	12061	TCACCTCGCTTGCGCTGGCCGCGCTGTCGCACGGGGCGCTCGGTGGTAACGGACGTCATA	12120
Query	23200	ATTAACCAGCGTAACCGAACCTAAGACCAGCTAGCTGCGGCAATATTGGCGACCAGGACT	23259
Sbjct	12121	ATTAACCAGCGTAACCGAACCTAAGACCAGCTAGCTGCGGCAATATTGGCGACCAGGACT	12180
Query	23260	ATGGCGCCTCCGAACCCGGCGATCCATGTCAAACATTGACAATGCGTACTCACGCCG	23319
Sbjct	12181	ATGGCGCCTCCGAACCCGGCGATCCATGTCAAACATTGACAATGCGTACTCACGCCG	12240
Query	23320	TGTCGGGCGCGCTGAATGACCGCATTGCGGCGCTCATTCGTTGCGTAGTCGCTACCACCG	23379
Sbjct	12241	TGTCGGGCGCGCTGAATGACCGCATTGCGGCGCTCATTCGTTGCGTAGTCGCTACCACCG	12300
Query	23380	CAACAATGGGCTTAGGCCATTCTTCGTTTCATCGCGGGGACATGGCCGATAACGCAGCG	23439
Sbjct	12301	CAACAATGGGCTTAGGCCATTCTTCGTTTCATCGCGGGGACATGGCCGATAACGCAGCG	12360
Query	23440	GTCAGCTGCTCGCCCGCGCGTCGTTATACGCGGACGCCGCGGCCCTGCGCATTGTGCAGC	23499
Sbjct	12361	GTCAGCTGCTCGCCCGCGCGTCGTTATACGCGGACGCCGCGGCCCTGCGCATTGTGCAGC	12420
Query	23500	GCCTCGTTGACCCGCTGAGCCACCGCCTCGGCACCCAGCTTCTTCAGCAAACCATCTTCG	23559
Sbjct	12421	GCCTCGTTGACCCGCTGAGCCACCGCCTCGGCACCCAGCTTCTTCAGCAAACCATCTTCG	12480
Query	23560	ATGCGCAGGCCGGTGAGCCACTGGTGCCCATTTGATCGTCACTTCGACGGTCTCGGCTTCG	23619
Sbjct	12481	ATGCGCAGGCCGGTGAGCCACTGGTGCCCATTTGATCGTCACTTCGACGGTCTCGGCTTCG	12540
Query	23620	TCGGTGGCGGGAAGGATCCGTTGTTTCATCTGATTGAGCGTCCCGTCTAGGGCCGACTGA	23679
Sbjct	12541	TCGGTGGCGGGAAGGATCCGTTGTTTCATCTGATTGAGCGTCCCGTCTAGGGCCGACTGA	12600
Query	23680	AACCGCGCCGCCAGCGTCAACGCCCGGGCGACATGCGGGTCCAATTCTGTCATGCTCACT	23739
Sbjct	12601	AACCGCGCCGCCAGCGTCAACGCCCGGGCGACATGCGGGTCCAATTCTGTCATGCTCACT	12660
Query	23740	TCGACTCCTTACTGTCTTGGCGCCGACGGTTACCAATGACGGCCTCGGTCCATGCCCCGAT	23799
Sbjct	12661	TCGACTCCTTACTGTCTTGGCGCCGACGGTTACCAATGACGGCCTCGGTCCATGCCCCGAT	12720
Query	23800	CCTCGGTGTAGAGCGCCTCGTCTTCCTGCTGAGAACCCCTTGGACTTGGCGCCCCCTTGTC	23859
Sbjct	12721	CCTCGGTGTAGAGCGCCTCGTCTTCCTGCTGAGAACCCCTTGGACTTGGCGCCCCCTTGTC	12780
Query	23860	CCTGATGCGCGGCACCCATCGGCATTCCCATGCCACCGCCGCCAGCGCGCGCCGCCG	23919

Sbjct	12781	 CCTGATGCGCGGCACCCATCGGCATTCCCATGCCACCGCCGCCAGCGCGGCGCCGCCGC	12840
Query	23920	CGGCCCTTCCCTGGCCTAAGCCGGCAATGTCAACAGCGCCAGCGGGCCGACCGATTTCGG	23979
Sbjct	12841	 CGGCCCTTCCCTGGCCTAAGCCGGCAATGTCAACAGCGCCAGCGGGCCGACCGATTTCGG	12900
Query	23980	CGCCCCGATCGCGGATCCCAACGGCGCCGACGGCACCCCGCCGCTCCACCGCCACCGA	24039
Sbjct	12901	 CGCCCCGATCGCGGATCCCAACGGCGCCGACGGCACCCCGCCGCTCCACCGCCACCGA	12960
Query	24040	GCGATGCCGCTTTTGACCGCCACGTCGCCCAGACGCGTTCGGCTTCCGCGCCAGCCGACG	24099
Sbjct	12961	 GCGATGCCGCTTTTGACCGCCACGTCGCCCAGACGCGTTCGGCTTCCGCGCCAGCCGACG	13020
Query	24100	TCAGCTGCGCCGCCGTGTGTCAGCCGGGAGGCCACCACCGGCGATCCGGTAGGCGGAACCA	24159
Sbjct	13021	 TCAGCTGCGCCGCCGTGTGTCAGCCGGGAGGCCACCACCGGCGATCCGGTAGGCGGAACCA	13080
Query	24160	TCGGTGCGGCTGGCATCCCGGTACCGGGAGTCACACCGGAGCCGTGACAGCGCGGCATCA	24219
Sbjct	13081	 TCGGTGCGGCTGGCATCCCGGTACCGGGAGTCACACCGGAGCCGTGACAGCGCGGCATCA	13140
Query	24220	GGAAGCCAGGGATCAATCCCTGCTCTTGCGGGAGCGGGGGCGGGTCGATCTTGATGGC-G	24278
Sbjct	13141	 GGAAGCCAGGGATCAATCCCTGCTCTTGCGGGAGGC-GGGGGCGGGTCGATCTTGATGGCGG	13199
Query	24279	GGGGGAGGCTTCGGCGGGTTTACCGGTTCCAGGGCTGCCTTGTTGTTGTATTTCGGTCAGC	24338
Sbjct	13200	 GGGGGAGGCTTCGGCGGGTTTACCGGTTCCAGGGCTGCCTTGTTGTTGTATTTCGGTCAGC	13259
Query	24339	ACCTTCTCCGACCTCTGCTGATACTCCGCGTACACCGGAGAAATTTGGTCGCGGGCCGAA	24398
Sbjct	13260	 ACCTTCTCCGACCTCTGCTGATACTCCGCGTACACCGGAGAAATTTGGTCGCGGGCCGAA	13319
Query	24399	GGGTTTTCCGCGTAAAGCCGTTTCGAGCCCGACTATGTCTTCATAAGTCGGATGTTCCCGC	24458
Sbjct	13320	 GGGTTTTCCGCGTAAAGCCGTTTCGAGCCCGACTATGTCTTCATAAGTCGGATGTTCCCGC	13379
Query	24459	CTAGCCACACGTCGACGCTGCGCGACATATTGAGCCTGCTTGGCCATCGCAGCGCTCAAT	24518
Sbjct	13380	 CTAGCCACACGTCGACGCTGCGCGACATATTGAGCCTGCTTGGCCATCGCAGCGCTCAAT	13439
Query	24519	TTGGCCATGTGGAGTATCCATTGCCGTTGTTGATCGAGCGAAGCCTCGCAAGCGGTAGCC	24578
Sbjct	13440	 TTGGCCATGTGGAGTATCCATTGCCGTTGTTGATCGAGCGAAGCCTCGCAAGCGGTAGCC	13499
Query	24579	GCATCGCCTTCCCAGTTGTCAAACCCCGGAACCGCTTGACGTCGCCTTGCAGCGTCAGG	24638
Sbjct	13500	 GCATCGCCTTCCCAGTTGTCAAACCCCGGAACCGCTTGACGTCGCCTTGCAGCGTCAGG	13559

Query	24639	TTGAAAGTGTTCACCCATCCGCCAAAGTGC GCGAGCGATGCGCCTTGGTCGCCCGTTTCG	24698
Sbjct	13560	TTGAAAGTGTTCACCCATCCGCCAAAGTGC GCGAGCGATGCGCCTTGGTCGCCCGTTTCG	13619
Query	24699	AGCTTCCTTGCCGCTTCTTTGAGATCCATGAAGTTGGGTTACACGGCCGTGGCCACCCCTC	24758
Sbjct	13620	AGCTTCCTTGCCGCTTCTTTGAGATCCATGAAGTTGGGTTACACGGCCGTGGCCACCCCTC	13679
Query	24759	GGCGTATCGGTTAGTTTCGCCCGAACTGTCCCTCCGACGGCCCCGGCCGATTCTGCCTGC	24818
Sbjct	13680	GGCGTATCGGTTAGTTTCGCCCGAACTGTCCCTCCGACGGCCCCGGCCGATTCTGCCTGC	13739
Query	24819	ACAGTTCCCTTCGCCGCTCGTTGTCCAGCGCGGTTCGAGCCTCCTCATCAACCTCGCCATAC	24878
Sbjct	13740	ACAGTTCCCTTCGCCGCTCGTTGTCCAGCGCGGTTCGAGCCTCCTCATCAACCTCGCCATAC	13799
Query	24879	GCCTTGCCCGCGTTTGC GCGAGCGAGGTTCGCCAGACGCTGCCGCTCTTTGGCACC GGCCGCC	24938
Sbjct	13800	GCCTTGCCCGCGTTTGC GCGAGCGAGGTTCGCCAGACGCTGCCGCTCTTTGGCACC GGCCGCC	13859
Query	24939	AGGTATTCCCGCATGTTGTTCGCCGGACAATACCAGCTGTTGGCGGCGTTTTTAGCCGCC	24998
Sbjct	13860	AGGTATTCCCGCATGTTGTTCGCCGGACAATACCAGCTGTTGGCGGCGTTTTTAGCCGCC	13919
Query	24999	GTGAGTTTCGCACGGTGTGATGGGGACATCAGTCGGTGGGTCCGCCATCGGGGCTCCACC	25058
Sbjct	13920	GTGAGTTTCGCACGGTGTGATGGGGACATCAGTCGGTGGGTCCGCCATCGGGGCTCCACC	13979
Query	25059	TCGTTGGCCCTGTTCAAATCTCTTGCTGATCCACCGTCACGGTCTGCGACTGCGTCATA	25118
Sbjct	13980	TCGTTGGCCCTGTTCAAATCTCTTGCTGATCCACCGTCACGGTCTGCGACTGCGTCATA	14039
Query	25119	TCGGATCATCTCCTTAGTGCTATAGCCATTATCGTCGCTAAACTGAAAGGTTCTGCAC	25178
Sbjct	14040	TCGGATCATCTCCTTAGTGCTATAGCCATTATCGTCGCTAAACTGAAAGGTTCTGCAC	14099
Query	25179	TAATTTGATGCCGCCCGTTTCATGCCGGCATCGCGAACGGATCGCCCTACTTCGGCAGCGC	25238
Sbjct	14100	TAATTTGATGCCGCCCGTTTCATGCCGGCATCGCGAACGGATCGCCCTACTTCGGCAGCGC	14159
Query	25239	CATCTGGTAGCGGCTTTCCTCGGGTGGGGAAACCCGGCGAATCGGCAGCTGCCGATGCCG	25298
Sbjct	14160	CATCTGGTAGCGGCTTTCCTCGGGTGGGGAAACCCGGCGAATCGGCAGCTGCCGATGCCG	14219
Query	25299	CGGGGTACCGGATCACATTGTGCCGCGAATCACC CGGTCAATACCGGGATGCGGGCCGAG	25358
Sbjct	14220	CGGGGTACCGGATCACATTGTGCCGCGAATCACC CGGTCAATACCGGGATGCGGGCCGAG	14279
Query	25359	ATAGGTCGTCGCATTTCGGCCACGCCACCTTTACCTCCTGCCCGATGTGTGCGCCGATCAA	25418

Sbjct	14280	ATAGGTCGTCGCATTTCGGCCACGCCACCTTTACCTCCCTGCCCGATGTGTGCGCCGATCAA		14339
Query	25419	CCGGGCAAATTCCTCGAACTGTGGCCCGACTGTGACCATCGCACCTGCCGCCGCCGCACG		25478
Sbjct	14340	CCGGGCAAATTCCTCGAACTGTGGCCCGACTGTGACCATCGCACCTGCCGCCGCCGCACG		14399
Query	25479	CACCACGAACTGGGTGAATGTCTGAGCGTCACCCAGGTTGAGGGCGATGTGCACATCGTC		25538
Sbjct	14400	CACCACGAACTGGGTGAATGTCTGAGCGTCACCCAGGTTGAGGGCGATGTGCACATCGTC		14459
Query	25539	GAAGGGCATGTAGACCGGGCATCGGTTACCGTCTCGCCGACCAGTACCCAGCTGACCC		25598
Sbjct	14460	GAAGGGCATGTAGACCGGGCATCGGTTACCGTCTCGCCGACCAGTACCCAGCTGACCC		14519
Query	25599	GATCGGCAGCTGGCAGTGGCGGTTGGCCACCAGATGCTGGCCTTGACAGCGGGGCCGCTG		25658
Sbjct	14520	GATCGGCAGCTGGCAGTGGCGGTTGGCCACCAGATGCTGGCCTTGACAGCGGGGCCGCTG		14579
Query	25659	CCCGCCAAATAGGCGGGCGAAGCCCTGGGTGTCTTGGGCTTGTCGCCCGTGGTCAGCAA		25718
Sbjct	14580	CCCGCCAAATAGGCGGGCGAAGCCCTGGGTGTCTTGGGCTTGTCGCCCGTGGTCAGCAA		14639
Query	25719	CACCGTGGACTGCGGGGCCATCCCGGCGCGACCCGACTCTGGTGATGGTGTGGTCCGC		25778
Sbjct	14640	CACCGTGGACTGCGGGGCCATCCCGGCGCGACCCGACTCTGGTGATGGTGTGGTCCGC		14699
Query	25779	GCGCGCCGACCACCATAACATCCGGACCTCCGGGCGCCGCGTAGGCGGCAGTGTAGGCATC		25838
Sbjct	14700	GCGCGCCGACCACCATAACATCCGGACCTCCGGGCGCCGCGTAGGCGGCAGTGTAGGCATC		14759
Query	25839	GCGCCCTTGATCATCGACCATTTCTCCCGCACAAAGCCGATGTCGGTGGCGTGGTCGTA		25898
Sbjct	14760	GCGCCCTTGATCATCGACCATTTCTCCCGCACAAAGCCGATGTCGGTGGCGTGGTCGTA		14819
Query	25899	GTCATCGAAGCTGCGGCCACACACCGCGTCGACACCATGGCTAGCCAGTCGATCGGCAAT		25958
Sbjct	14820	GTCATCGAAGCTGCGGCCACACACCGCGTCGACACCATGGCTAGCCAGTCGATCGGCAAT		14879
Query	25959	GCGCGTCGCGGACGCCACCAAATACCGGGCCAGTCTGCGACGCCTTCATCGCGGCGCTG		26018
Sbjct	14880	GCGCGTCGCGGACGCCACCAAATACCGGGCCAGTCTGCGACGCCTTCATCGCGGCGCTG		14939
Query	26019	CGCCGATTTCGGGTGCGTTCCGGGTCGGCGCGCAGCACGATCCAGGTCCGGCGGTTTCGC		26078
Sbjct	14940	CGCCGATTTCGGGTGCGTTCCGGGTCGGCGCGCAGCACGATCCAGGTCCGGCGGTTTCGC		14999
Query	26079	CGGCGCCGGGTCTGTCCCGATCACTGTGATACAGACTCACCAGTCCGGCGCTGCGGT		26138

Sbjct	15000	CGGCGCGGGTCTGTCCCAGATCACCTGCTGATACAGACTCACCACGTCCGGCGCTGCGGT	15059
Query	26139	ATTGCCGACGCGGTAGCCGGCTGAGACGATATCGGCCTCCAAGTCGGGACAGTGACCCGA	26198
Sbjct	15060	ATTGCCGACGCGGTAGCCGGCTGAGACGATATCGGCCTCCAAGTCGGGACAGTGACCCGA	15119
Query	26199	CAGGAGCTCCTCCACCAGTCCGGTGTCCAGCATGTCGTCGGTGTGGGCTTGCCCGTCGAC	26258
Sbjct	15120	CAGGAGCTCCTCCACCAGTCCGGTGTCCAGCATGTCGTCGGTGTGGGCTTGCCCGTCGAC	15179
Query	26259	GATGACCGTCGCGGTGAATGGTCGGGAATGAGCTCGATTACGGCGACCAGAACTCGCC	26318
Sbjct	15180	GATGACCGTCGCGGTGAATGGTCGGGAATGAGCTCGATTACGGCGACCAGAACTCGCC	15239
Query	26319	TTGCCAGCGCACCGCAACGTGATCTCTGGCTTCACGGTGGCCCCGACCACAGGTTCTGA	26378
Sbjct	15240	TTGCCAGCGCACCGCAACGTGATCTCTGGCTTCACGGTGGCCCCGACCACAGGTTCTGA	15299
Query	26379	CGAGGAATCCGGGGGCGCTCGCGCGCCGCCAACCACGCGTACACCGCCGCCACCCAGCC	26438
Sbjct	15300	CGAGGAATCCGGGGGCGCTCGCGCGCCGCCAACCACGCGTACACCGCCGCCACCCAGCC	15359
Query	26439	GGTGATCCGGCGGCGGTAGAAAGTGACCGTGGCCACGATGACGCCCAACGAGGCCAGCGC	26498
Sbjct	15360	GGTGATCCGGCGGCGGTAGAAAGTGACCGTGGCCACGATGACGCCCAACGAGGCCAGCGC	15419
Query	26499	AATCCCCGCCCACAGTAGCGCGTCTCCAAGAATGCGATGATGCATGGCGGGGCCAACGC	26558
Sbjct	15420	AATCCCCGCCCACAGTAGCGCGTCTCCAAGAATGCGATGATGCATGGCGGGGCCAACGC	15479
Query	26559	GGAGGCAAGCAAGGCGTGCCCGGTGCTGAACCGCAGCCCTAAAGGATTCTCATCGGCGG	26618
Sbjct	15480	GGAGGCAAGCAAGGCGTGCCCGGTGCTGAACCGCAGCCCTAAAGGATTCTCATCGGCGG	15539
Query	26619	CTCAGCGCCGTCTAGCCAGCGCGCCAGGCCAGGGCCAACGTAAGGCCGACGCCACC	26678
Sbjct	15540	CTCAGCGCCGTCTAGCCAGCGCGCCAGGCCAGGGCCAACGTAAGGCCGACGCCACC	15599
Query	26679	AACGCCACAGCCGTAATCGGGCGAGCATCGGGACCCGGCTCCACCACGGGGGTGGAAGT	26738
Sbjct	15600	AACGCCACAGCCGTAATCGGGCGAGCATCGGGACCCGGCTCCACCACGGGGGTGGAAGT	15659
Query	26739	CGTCTGACGTTGTATGGCGCCGAAGCAGGGCCGGGCGGAATGTCCCACGTCAGCGCGGCC	26798
Sbjct	15660	CGTCTGACGTTGTATGGCGCCGAAGCAGGGCCGGGCGGAATGTCCCACGTCAGCGCGGCC	15719
Query	26799	ACCGCATCGATGACGCCGGCGCCGACAGGTGTCGACCCCGCCCCGGGGTGTCTCGCG	26858
Sbjct	15720	ACCGCATCGATGACGCCGGCGCCGACAGGTGTCGACCCCGCCCCGGGGTGTCTCGCG	15779

Query	26859	GTGGCGGTGATCCGGTGGATGATCTGCGCCGGCGTCAGGTCGGGGAACCGCTGCCGAAGC	26918
Sbjct	15780	GTGGCGGTGATCCGGTGGATGATCTGCGCCGGCGTCAGGTCGGGGAACCGCTGCCGAAGC	15839
Query	26919	AGGGCCGCCAGACCCGACACATATGCCGCGGCAACGAGGTGCCGGCGATGGGTACCGGC	26978
Sbjct	15840	AGGGCCGCCAGACCCGACACATATGCCGCGGCAACGAGGTGCCGGCGATGGGTACCGGC	15899
Query	26979	CCCTCCCGGCCTTGCAGCGCATTCACCGGTTACCGGTGTCGCCGAGCGCGACGATGTTT	27038
Sbjct	15900	CCCTCCCGGCCTTGCAGCGCATTCACCGGTTACCGGTGTCGCCGAGCGCGACGATGTTT	15959
Query	27039	TCTGCGGGCGCGGCCACGTCCACCCACGGTCCGTGCATCGAGAACGAGCTGGGCATCCCG	27098
Sbjct	15960	TCTGCGGGCGCGGCCACGTCCACCCACGGTCCGTGCATCGAGAACGAGCTGGGCATCCCG	16019
Query	27099	GTC TGCCGATACCGCCGACGCTTAACACCAGCGGTGCGTACCACGCCGGGGTGACAACG	27158
Sbjct	16020	GTC TGCCGATACCGCCGACGCTTAACACCAGCGGTGCGTACCACGCCGGGGTGACAACG	16079
Query	27159	GTCTGCACATTGTTCCAGCCGCGTGGGTGCGCGGGTGTTGACGGGTCCGGCGCCGGATT	27218
Sbjct	16080	GTCTGCACATTGTTCCAGCCGCGTGGGTGCGCGGGTGTTGACGGGTCCGGCGCCGGATT	16139
Query	27219	TGTACGCAATCGCCACCGGTGTTGCCGGCCGCGACCACCACCACCGCTTTTGACGTTG	27278
Sbjct	16140	TGTACGCAATCGCCACCGGTGTTGCCGGCCGCGACCACCACCACCGCTTTTGACGTTG	16199
Query	27279	ACCGCATAGTCGATGGATGCACCCAGTGAGGTTTCATCGATCGGCCTGCTCACCTTGATG	27338
Sbjct	16200	ACCGCATAGTCGATGGATGCACCCAGTGAGGTTTCATCGATCGGCCTGCTCACCTTGATG	16259
Query	27339	CAGGCGGCTTCACTGATGTTGATCACACCCACGCCGAGGTTGGCGGCGTGACACACGGCG	27398
Sbjct	16260	CAGGCGGCTTCACTGATGTTGATCACACCCACGCCGAGGTTGGCGGCGTGACACACGGCG	16319
Query	27399	CGGGCAAGACTGCGGATGGAACCGGCGCCGGGGTGGCGTTGGGGTCATTGGGGTTGGCT	27458
Sbjct	16320	CGGGCAAGACTGCGGATGGAACCGGCGCCGGGGTGGCGTTGGGGTCATTGGGGTTGGCT	16379
Query	27459	TGTGAGCCGACCGGTTTGAAGGCTCAGACGTCTGACGTAGCGAGAGCAGTCGAGCGTCG	27518
Sbjct	16380	TGTGAGCCGACCGGTTTGAAGGCTCAGACGTCTGACGTAGCGAGAGCAGTCGAGCGTCG	16439
Query	27519	GGCGCGACGCCGACGAACCCGTCGGTGCGCGGGCCGGCCCGCGATGATGGATGCTGTG	27578
Sbjct	16440	GGCGCGACGCCGACGAACCCGTCGGTGCGCGGGCCGGCCCGCGATGATGGATGCTGTG	16499
Query	27579	AGAGTCCCATGGGCATCACAGTCAGACAGGCCGTTACCGGCCTGGTCGACGAAATCGCCG	27638

Sbjct	16500	AGAGTCCCATGGGCATCACAGTCAGACAGGCCGTTACCGGCCCTGGTCGACGAAATCGCCG	16559
Query	27639	CCAGGTTCCGCCGGGACCCGTTGGCGAAGCGTCGACACCGGTGTCGATCACCGCCACCGTC	27698
Sbjct	16560	CCAGGTTCCGCCGGGACCCGTTGGCGAAGCGTCGACACCGGTGTCGATCACCGCCACCGTC	16619
Query	27699	ACCCCGGCCCGGTCGCGAACTTGTGGGCATCGGCCACGCCAGATACGTGTTGCTCCAC	27758
Sbjct	16620	ACCCCGGCCCGGTCGCGAACTTGTGGGCATCGGCCACGCCAGATACGTGTTGCTCCAC	16679
Query	27759	GGCGGATCGTGGAACCCGGACCCGGCAGCGTGGTGGGCGACGCGCACAAAACGCGCTGT	27818
Sbjct	16680	GGCGGATCGTGGAACCCGGACCCGGCAGCGTGGTGGGCGACGCGCACAAAACGCGCTGT	16739
Query	27819	TCGGTAGGCTGATCCGGGCCGTCACGTCGGGCGGCAACGCGCCGGATCGATCGGCGGT	27878
Sbjct	16740	TCGGTAGGCTGATCCGGGCCGTCACGTCGGGCGGCAACGCGCCGGATCGATCGGCGGT	16799
Query	27879	GGCGTGATGGCCGATGCGGGCGACGCGGTGAGCAACGCCAGCGCCACCGTGATCAGAAAG	27938
Sbjct	16800	GGCGTGATGGCCGATGCGGGCGACGCGGTGAGCAACGCCAGCGCCACCGTGATCAGAAAG	16859
Query	27939	ATACGGTGCACTCCAGAACACTCCATTTCGTTGAGATTTCATTGCGATTTCATTGAGCTGCG	27998
Sbjct	16860	ATACGGTGCACTCCAGAACACTCCATTTCGTTGAGATTTCATTGCGATTTCATTGAGCTGCG	16919
Query	27999	TTGCTACCTTGGGCCACTTGACGGACCTGTGTGCATTTTAGACGTAACGGCTGGGCAAAC	28058
Sbjct	16920	TTGCTACCTTGGGCCACTTGACGGACCTGTGTGCATTTTAGACGTAACGGCTGGGCAAAC	16979
Query	28059	AACGCTGTACGCGCTGGGCTGGTCCGCCGCGCCGACAGGGCGCGTAGGCGCTGTACCTG	28118
Sbjct	16980	AACGCTGTACGCGCTGGGCTGGTCCGCCGCGCCGACAGGGCGCGTAGGCGCTGTACCTG	17039
Query	28119	GACCACGCCGGGACTCAACGGTTTTGCTACCGCACTAGCCGATATGCGGCTGCTACCAAA	28178
Sbjct	17040	GACCACGCCGGGACTCAACGGTTTTGCTACCGCACTAGCCGATATGCGGCTGCTACCAAA	17099
Query	28179	CGATCGCGGCCATGTCTCGGTTGTCTGAGCACACGCTGCGTATCGGGCATCGATGTCGG	28238
Sbjct	17100	CGATCGCGGCCATGTCTCGGTTGTCTGAGCACACGCTGCGTATCGGGCATCGATGTCGG	17159
Query	28239	TGGCGGTGATGATCTGCAGATCCTGAACCGATACCGGTTGGCCCGCACGTTTTTGCGCAA	28298
Sbjct	17160	TGGCGGTGATGATCTGCAGATCCTGAACCGATACCGGTTGGCCCGCACGTTTTTGCGCAA	17219
Query	28299	CCACCCGGGTGTCCCGGAACCTTCGGCGCGTTCGATACGTTGCGGGCGAACCGACCGT	28358
Sbjct	17220	CCACCCGGGTGTCCCGGAACCTTCGGCGCGTTCGATACGTTGCGGGCGAACCGACCGT	17279

Blast Result

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Query 28359 TTTGCATAGCGTCGATACCGTGCTGCCCACTAGGGGTGGTGTAGTTACGGATGGTGGTGA 28418
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct 17280 TTTGCATAGCGTCGATACCGTGCTGCCCACTAGGGGTGGTGTAGTTACGGATGGTGGTGA 17339

Query 28419 CCGCGTCGAGGAATACCTCCCGTGCGGCGTCATCGAGCTGGCTGGCGCGCGGTGTAGCGT 28478
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct 17340 CCGCGTCGAGGAATACCTCCCGTGCGGCGTCATCGAGCTGGCTGGCGCGCGGTGTAGCGT 17399

Query 28479 AGCGGTGTCCAATCTCGACGATCTCCACCGGCGAATAAGACTCGAACCGCAGCTTTCGGT 28538
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct 17400 AGCGGTGTCCAATCTCGACGATCTCCACCGGCGAATAAGACTCGAACCGCAGCTTTCGGT 17459

Query 28539 TGAACCGGCCAGCCAAACCCGGGTTACGGTGAGGAATTC 28578
          ||||||||||||||||||||||||||||||||||||
Sbjct 17460 TGAACCGGCCAGCCAAACCCGGGTTACGGTGAGGAATTC 17499
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CPU time: 0.05 user secs. 0.03 sys. secs 0.08 total secs.



Blast 2 Sequences results

Alignment B

PubMed

Entrez

BLAST

OMIM

Taxonomy

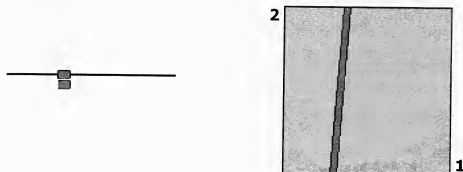
Structure

BLAST 2 SEQUENCES RESULTS VERSION BLASTN 2.2.18 [Mar-02-2008]

Match: Mismatch: gap open: gap extension:
 x_dropoff: expect: wordsize: ☐ Filter ☐ View option
 Masking character option Masking color option
☐ Show CDS translation

Sequence 1: gi|40247167|emb|AX926815.1| Sequence 1 from Patent WO03085098
 Length = 31808 (1 .. 31808)

Sequence 2: gi|40247218|emb|AX926827.1| Sequence 13 from Patent WO03085098
 Length = 2244 (1 .. 2244)



NOTE:Bitscore and expect value are calculated based on the size of the nr database.

NOTE:If protein translation is reversed, please repeat the search with reverse strand of the query sequence.

Score = 4315 bits (2244), Expect = 0.0
 Identities = 2244/2244 (100%), Gaps = 0/2244 (0%)
 Strand=Plus/Plus

Query	9673	ATGACGACCAAGAAGTTCACCTCCCACCATTACCCGTGGCCCCCGGTTGACCCCGGGCGAG	9732
Sbjct	1	ATGACGACCAAGAAGTTCACCTCCCACCATTACCCGTGGCCCCCGGTTGACCCCGGGCGAG	60
Query	9733	ATCAGCCTCAGCCGCCCGATGACCTGGGCATCGACATCCCACCGTCGGGCGTCCAAAAG	9792
Sbjct	61	ATCAGCCTCAGCCGCCCGATGACCTGGGCATCGACATCCCACCGTCGGGCGTCCAAAAG	120

Query	9793	ATCCTTCCCTACGTGATGGGTGGCGCCATGCTCGGCATGATCGCCATCATGGTGGCCGGC	9852
Sbjct	121	ATCCTTCCCTACGTGATGGGTGGCGCCATGCTCGGCATGATCGCCATCATGGTGGCCGGC	180
Query	9853	GGCACCAGGACAGTGTGCGCGTACATGTTGATGATGCCGCTGATGATGATCGTGATGATG	9912
Sbjct	181	GGCACCAGGACAGTGTGCGCGTACATGTTGATGATGCCGCTGATGATGATCGTGATGATG	240
Query	9913	GTCGGCGGTCTGGCCGGTAGCACCGGTGGTGGCGGCAAGAAGGTGCCCGAAATCAACGCC	9972
Sbjct	241	GTCGGCGGTCTGGCCGGTAGCACCGGTGGTGGCGGCAAGAAGGTGCCCGAAATCAACGCC	300
Query	9973	GACCGCAAGGAGTACCTGCGGTATTTGGCAGGACTACGCACCCGAGTGACGTCTCGGCC	10032
Sbjct	301	GACCGCAAGGAGTACCTGCGGTATTTGGCAGGACTACGCACCCGAGTGACGTCTCGGCC	360
Query	10033	ACCTCTCAGGTGGCGTTCTTCTCCTACCACGCACCGCATCCCGAGGATCTGTTGTCGATC	10092
Sbjct	361	ACCTCTCAGGTGGCGTTCTTCTCCTACCACGCACCGCATCCCGAGGATCTGTTGTCGATC	420
Query	10093	GTCGGCACCCAAACGGCAGTGGTCCCGGCCGGCCAAACGCCGACTTCTATGCGGCCACCCGA	10152
Sbjct	421	GTCGGCACCCAAACGGCAGTGGTCCCGGCCGGCCAAACGCCGACTTCTATGCGGCCACCCGA	480
Query	10153	ATCGGTATCGGTGACCAGCGCGGTGGATCGATTATTGAAGCCGGCCGTGGCGGGGAG	10212
Sbjct	481	ATCGGTATCGGTGACCAGCGCGGTGGATCGATTATTGAAGCCGGCCGTGGCGGGGAG	540
Query	10213	TTGGCCGCCGCCAGCGCAGCACCTCAGCCGTTCTTGAGCCGGTCAGTCATATGTGGGTG	10272
Sbjct	541	TTGGCCGCCGCCAGCGCAGCACCTCAGCCGTTCTTGAGCCGGTCAGTCATATGTGGGTG	600
Query	10273	GTCAAGTTTCTACGAACCCATGGATTGATCCATGACTGCCCGAAACTGCTGCAACTCCGT	10332
Sbjct	601	GTCAAGTTTCTACGAACCCATGGATTGATCCATGACTGCCCGAAACTGCTGCAACTCCGT	660
Query	10333	ACCTTTCCGACTATCGCGATCGGCGGGGACTTGGCGGGGGCAGCCGGCTGATGACGGCG	10392
Sbjct	661	ACCTTTCCGACTATCGCGATCGGCGGGGACTTGGCGGGGGCAGCCGGCTGATGACGGCG	720
Query	10393	ATGATCTGTACCTAGCCGTGTTCCACCCACCGGACCTGCTGCAGATCCGGGTGCTCACC	10452
Sbjct	721	ATGATCTGTACCTAGCCGTGTTCCACCCACCGGACCTGCTGCAGATCCGGGTGCTCACC	780
Query	10453	GAGGAACCCGACGACCCCGACTGGTCTGGCTCAAATGGCTTCCGCACGTACAGCACCAG	10512
Sbjct	781	GAGGAACCCGACGACCCCGACTGGTCTGGCTCAAATGGCTTCCGCACGTACAGCACCAG	840
Query	10513	ACCGAAACCGATGCGGCCGGGTCCACCCGGCTGATCTTCACGCGCCAGGAAGGTCTGTGC	10572

Sbjct	841	ACCGAAACCGATGCGGCCGGGTCCACCCGGCTGATCTTCACGCGCCAGGAAGGTCTGTGCG	900
Query	10573	GACCTGGCCGCGCGCGGGGCACACGCACCCGATTTCGCTTCCCGGGCGCCCTACGTAGTC	10632
Sbjct	901	GACCTGGCCGCGCGCGGGGCACACGCACCCGATTTCGCTTCCCGGGCGCCCTACGTAGTC	960
Query	10633	GTCGTCGACCTGACCGGCGGCAAGGCTGGATTTCGCGCCGACGGTAGGGCCGGTGTACAG	10692
Sbjct	961	GTCGTCGACCTGACCGGCGGCAAGGCTGGATTTCGCGCCGACGGTAGGGCCGGTGTACAG	1020
Query	10693	GTGATCACGTTGGGGCAACCATCGCGGCTCGGCCTACCGCATCAGGGTGCACGAGGATGGG	10752
Sbjct	1021	GTGATCACGTTGGGGCAACCATCGCGGCTCGGCCTACCGCATCAGGGTGCACGAGGATGGG	1080
Query	10753	ACGGCTGATGACCGGCTCCCTAACCAATCGTTTCGCCAGGTGACATCGGTCACCGATCGG	10812
Sbjct	1081	ACGGCTGATGACCGGCTCCCTAACCAATCGTTTCGCCAGGTGACATCGGTCACCGATCGG	1140
Query	10813	ATGTCGCCGCGCAGCAAGCCAGCCGATCGCGCGAAAGTTGGCCGGATGGTCCATCACGGGC	10872
Sbjct	1141	ATGTCGCCGCGCAGCAAGCCAGCCGATCGCGCGAAAGTTGGCCGGATGGTCCATCACGGGC	1200
Query	10873	ACCATCCTCGACAAGACGTCGCGGGTCCAGAAGAAGGTGGCCACCGACTGGCACCAGCTG	10932
Sbjct	1201	ACCATCCTCGACAAGACGTCGCGGGTCCAGAAGAAGGTGGCCACCGACTGGCACCAGCTG	1260
Query	10933	GTCGGTGCGCAAAAGTGTCGAGGAGATAACACCTTCCGCTGGAGGATGTACACCGACACC	10992
Sbjct	1261	GTCGGTGCGCAAAAGTGTCGAGGAGATAACACCTTCCGCTGGAGGATGTACACCGACACC	1320
Query	10993	GACCGTGACCGGCTAAAGATCCCGTTTGGTCATGAACCTAAAGACCGGCAACGTCATGTAC	11052
Sbjct	1321	GACCGTGACCGGCTAAAGATCCCGTTTGGTCATGAACCTAAAGACCGGCAACGTCATGTAC	1380
Query	11053	CTGGACATCAAAGAGGGCGCGGAATTCGGCGCCGGACCGCACGGCATGCTCATCGGGACC	11112
Sbjct	1381	CTGGACATCAAAGAGGGCGCGGAATTCGGCGCCGGACCGCACGGCATGCTCATCGGGACC	1440
Query	11113	ACGGGGTCTGGGAAGTCCGAATTCCTGCGCACCTGATCCTGTCTGGTGGCAATGACT	11172
Sbjct	1441	ACGGGGTCTGGGAAGTCCGAATTCCTGCGCACCTGATCCTGTCTGGTGGCAATGACT	1500
Query	11173	CATCCAGATCAGGTGAATCTCTGCTCACCAGCTTCAAAGGTGGTTCAACCTTCCTGGGA	11232
Sbjct	1501	CATCCAGATCAGGTGAATCTCTGCTCACCAGCTTCAAAGGTGGTTCAACCTTCCTGGGA	1560
Query	11233	ATGGAAAAGCTTCCGCACACTGCCGCTGTCGTACCAACATGGCCGAGGAAGCCGAGCTC	11292
Sbjct	1561	ATGGAAAAGCTTCCGCACACTGCCGCTGTCGTACCAACATGGCCGAGGAAGCCGAGCTC	1620

• Blast Result

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Query 11293  GTCAGCCGGATGGGCGAGGTGTTGACCGGAGAACTCGATCGGCGCCAGTCGATCCTCCGA 11352
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Sbjct 1621   GTCAGCCGGATGGGCGAGGTGTTGACCGGAGAACTCGATCGGCGCCAGTCGATCCTCCGA 1680

Query 11353  CAGGCCGGGATGAAAGTCGGCGCGGCCGAGCCCTGTCTCGGCGTGGCCGAATACGAGAAG 11412
             |||
Sbjct 1681   CAGGCCGGGATGAAAGTCGGCGCGGCCGAGCCCTGTCTCGGCGTGGCCGAATACGAGAAG 1740

Query 11413  TACCGCGAAGCGGTTGCCGACCTACCCCGCTGCCAACGCTTTTCGTCGTCGACGAG 11472
             |||
Sbjct 1741   TACCGCGAAGCGGTTGCCGACCTACCCCGCTGCCAACGCTTTTCGTCGTCGACGAG 1800

Query 11473  TTCGCCGAGCTGTTGCAGAGTCACCCGACTTCATCGGGCTGTTTCGACCGGATCTGCCGC 11532
             |||
Sbjct 1801   TTCGCCGAGCTGTTGCAGAGTCACCCGACTTCATCGGGCTGTTTCGACCGGATCTGCCGC 1860

Query 11533  GTCGGGCGGTGCGTGAGGGTCCATCTGCTGCTGGCTACCCAGTCGCTGCAGACCGGCGGT 11592
             |||
Sbjct 1861   GTCGGGCGGTGCGTGAGGGTCCATCTGCTGCTGGCTACCCAGTCGCTGCAGACCGGCGGT 1920

Query 11593  GTTCGCATCGACAAACTGGAGCCAAACCTGACATATCGAATCGCATTGCGCACCCACCAGC 11652
             |||
Sbjct 1921   GTTCGCATCGACAAACTGGAGCCAAACCTGACATATCGAATCGCATTGCGCACCCACCAGC 1980

Query 11653  TCTCATGAATCCAAGGCGGTAATCGGCACACCGGAGGCGCAGTACATCACCAACAAGGAG 11712
             |||
Sbjct 1981   TCTCATGAATCCAAGGCGGTAATCGGCACACCGGAGGCGCAGTACATCACCAACAAGGAG 2040

Query 11713  AGCGGTGTGCGGGTTTCTCCGGGTCGGCATGGAAGACCGGTCAAGTTCAGCACCTTCTAC 11772
             |||
Sbjct 2041   AGCGGTGTGCGGGTTTCTCCGGGTCGGCATGGAAGACCGGTCAAGTTCAGCACCTTCTAC 2100

Query 11773  ATCAGTGGGCCATACATGCCGCCGCGCGAGGCGTCGAAACCAATGGTGAAGCCGGAGGG 11832
             |||
Sbjct 2101   ATCAGTGGGCCATACATGCCGCCGCGCGAGGCGTCGAAACCAATGGTGAAGCCGGAGGG 2160

Query 11833  CCCGGTCAACAGACCACTAGACAAGCCGCGCGCATTCACAGGTTACCCGCGGCACCGGTT 11892
             |||
Sbjct 2161   CCCGGTCAACAGACCACTAGACAAGCCGCGCGCATTCACAGGTTACCCGCGGCACCGGTT 2220

Query 11893  CTCGAGGAGGCGCCGACACCGTGA 11916
             |||
Sbjct 2221   CTCGAGGAGGCGCCGACACCGTGA 2244

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CPU time: 0.06 user secs. 0.03 sys. secs 0.09 total secs.



Blast 2 Sequences results

PubMed

Entrez

BLAST

OMIM

Taxonomy

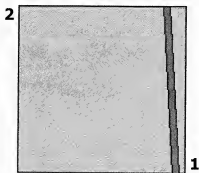
Structure

BLAST 2 SEQUENCES RESULTS VERSION BLASTN 2.2.18 [Mar-02-2008]

Match: Mismatch: gap open: gap extension:
 x_dropoff: expect: wordsize: Filter ☐ View option
 Masking character option Masking color option
☐ Show CDS translation

Sequence 1: gi|40247167|emb|AX926815.1| Sequence 1 from Patent WO03085098
 Length = 31808 (1 .. 31808)

Sequence 2: gi|40247268|emb|AX926841.1| Sequence 27 from Patent WO03085098
 Length = 1857 (1 .. 1857)



NOTE:Bitscore and expect value are calculated based on the size of the nr database.

NOTE:If protein translation is reversed, please repeat the search with reverse strand of the query sequence.

Score = 3571 bits (1857), Expect = 0.0
 Identities = 1857/1857 (100%), Gaps = 0/1857 (0%)
 Strand=Plus/Minus

Query	28174	CCAAACGATCGCGGCCATGTCTCGGTTGTCTGAGCACACGCTGCGTATCGCGGCATCGAT	28233
Sbjct	1857	CCAAACGATCGCGGCCATGTCTCGGTTGTCTGAGCACACGCTGCGTATCGCGGCATCGAT	1798
Query	28234	GTCGGTGGCGGTGATGATCTGCAGATCCTGAACCGATACCGGTTGGCCCGCACGTTTTTG	28293
Sbjct	1797	GTCGGTGGCGGTGATGATCTGCAGATCCTGAACCGATACCGGTTGGCCCGCACGTTTTTG	1738

Query	28294	CGCAACCACCCGGGTGTCCCGGAACCCCTTCGGCGCGTTCGATCACGTTGCGGGCGAACCG	28353
Sbjct	1737	CGCAACCACCCGGGTGTCCCGGAACCCCTTCGGCGCGTTCGATCACGTTGCGGGCGAACCG	1678
Query	28354	ACCGTTTTGCATAGCGTCGATACCGTGTGCCACTAGGGGTGGTGTAGTTACGGATGGT	28413
Sbjct	1677	ACCGTTTTGCATAGCGTCGATACCGTGTGCCACTAGGGGTGGTGTAGTTACGGATGGT	1618
Query	28414	GGTGACCGCGTCGAGGAATACTCCCGTGCGGCGTCATCGAGCTGGCTGGCGCGCGGTGT	28473
Sbjct	1617	GGTGACCGCGTCGAGGAATACTCCCGTGCGGCGTCATCGAGCTGGCTGGCGCGCGGTGT	1558
Query	28474	AGCGTAGCGGTGTCCAATCTCGACGATCTCCACCGCGAATAAGACTCGAACCAGCTT	28533
Sbjct	1557	AGCGTAGCGGTGTCCAATCTCGACGATCTCCACCGCGAATAAGACTCGAACCAGCTT	1498
Query	28534	TCGGTTGAACCGGCCAGCCAAACCCGGGTTACGGTGAGGAATTCATCCACCTGATCCTC	28593
Sbjct	1497	TCGGTTGAACCGGCCAGCCAAACCCGGGTTACGGTGAGGAATTCATCCACCTGATCCTC	1438
Query	28594	ATAGCCGGCCCCGATGAAACAGAAGTCGAATCGGTGTGTTTCCAATTGAACCAGGAGTTG	28653
Sbjct	1437	ATAGCCGGCCCCGATGAAACAGAAGTCGAATCGGTGTGTTTCCAATTGAACCAGGAGTTG	1378
Query	28654	ATTGACCGCCTCCATGCCGATCATGTCCGGTGTTCGCTCTTGATGACGTTTCGATCAGCGA	28713
Sbjct	1377	ATTGACCGCCTCCATGCCGATCATGTCCGGTGTTCGCTCTTGATGACGTTTCGATCAGCGA	1318
Query	28714	GTAGAACTCGTCCATGAAAATGATTGCGCCGAGTGACTTTTCGATCAGCTCGTTCGTCTT	28773
Sbjct	1317	GTAGAACTCGTCCATGAAAATGATTGCGCCGAGTGACTTTTCGATCAGCTCGTTCGTCTT	1258
Query	28774	GGGTCTGACTCCCCGATGTAGTGCCACAGAAGTCCGATCGGCGAAGTTCTCGAATTTT	28833
Sbjct	1257	GGGTCTGACTCCCCGATGTAGTGCCACAGAAGTCCGATCGGCGAAGTTCTCGAATTTT	1198
Query	28834	GGGGTGACGCACGATCCCCATGCCGGCGTAGATCTTGCCGAGCGCTTCAGCGGTGGTGT	28893
Sbjct	1197	GGGGTGACGCACGATCCCCATGCCGGCGTAGATCTTGCCGAGCGCTTCAGCGGTGGTGT	1138
Query	28894	CTTACCTGTGCCTGGTGGCCCCACCAGCAACATGTGGTTGGTCTGCCCTCCACCGGTAG	28953
Sbjct	1137	CTTACCTGTGCCTGGTGGCCCCACCAGCAACATGTGGTTGGTCTGCCCTCCACCGGTAG	1078
Query	28954	GCCGTGCTCTAGGCGCATCATGCGCACCTCGAGTTGGTCTTCCAGCGCCGATACCGCTTG	29013
Sbjct	1077	GCCGTGCTCTAGGCGCATCATGCGCACCTCGAGTTGGTCTTCCAGCGCCGATACCGCTTG	1018
Query	29014	CTTGACCGCGCCAGGCCACCTGTTTGGCCAGCAGTTCGCCGCCCTCGGCTAGCAGCTC	29073

Sbjct	1017	CTTGACCGCCGCCAGGCCACCTGTTTGGCCAGCAGTTCCCGGCCCTCGGCTAGCAGCTC	958
Query	29074	GCCGCGCCGCTGCGCTGCATTGTCGTATCGAGCTGGTCGCGGCTTTTCGCCGTCGAAGC	29133
Sbjct	957		898
Query	29134	ATCCCAACGGTCGGAGCGGCTGGCGATGGTTTCGTTTCATCGGTAACAATCAAGCGCAGGTT	29193
Sbjct	897		838
Query	29194	CGGGTCCGCCAGGGCTTCTTTGGCGGCGTCGGTGAGCACCCCGTTGATGGTGGCCTTCGA	29253
Sbjct	837		778
Query	29254	CAGCCAGATCTGGGCTTGTCTCTCATGCAGTTGCCGGTACACCATCCCCGCACATA	29313
Sbjct	777		718
Query	29314	CGCCAAGTCGGCGACCAGCAGCGGAATATCGGCCGGTCCGATCGCCGCGGTGAGCACGTC	29373
Sbjct	717		658
Query	29374	GGCGCCGAACCGCTCCGATGACCTGCTGTGTCCGATCAGTCCACCCGGTCCAGCCAGTC	29433
Sbjct	657		598
Query	29434	CAGGGCCACTCGCCCCTGCCCAGATGGGCGGGCGGTGGGCTGCCAGCGCACAAATCGA	29493
Sbjct	597		538
Query	29494	CGCGGTACACGCCGGCATGACGATCGCCTGTGGCGGCAGATCCTCGGC GGCGTCGACAA	29553
Sbjct	537		478
Query	29554	CACGTCGGGCCATCGCTGCGTGACGTACATCAGGAACGCCCGAGCCAGCTGATGCCACTG	29613
Sbjct	477		418
Query	29614	GTAGTTGCGCCACGAATCCAATAGCTCGCGGTTTGCTAACAGGGCATCGGCCTTCGCATA	29673
Sbjct	417		358
Query	29674	CTCCCCGCGATCGTCAACGCCGACGACAGCGCCAGCCCCACCTGAGATGCGTCGGTCAC	29733
Sbjct	357		298
Query	29734	CGTGATCCCGATGGATGGTCCAGCTGGACCTCAGCGGCCAACGTCGGGCCGATCCGCGT	29793
Sbjct	297		238

• Blast Result

Query	29794	GGTCTCGCGGTGCAGCCACTCGCTATGGGCGTTGAGCTGCTTAAGCGAGGCCAGATCGCG	29853
Sbjct	237	GGTCTCGCGGTGCAGCCACTCGCTATGGGCGTTGAGCTGCTTAAGCGAGGCCAGATCGCG	178
Query	29854	GTCACCGCAGGCGATACGACCCAGCCACGCGTCGGCCATCGACGGATCGGCCTCGGTGGC	29913
Sbjct	177	GTCACCGCAGGCGATACGACCCAGCCACGCGTCGGCCATCGACGGATCGGCCTCGGTGGC	118
Query	29914	AGCCACAAACTCAGGCAACGCCGCCACGCATCCCTGGCCATTCTTGATCGTCATCGCCCG	29973
Sbjct	117	AGCCACAAACTCAGGCAACGCCGCCACGCATCCCTGGCCATTCTTGATCGTCATCGCCCG	58
Query	29974	ATCGAAATGCCGGCGCGCAGTGAGTAAATCACCATCGTGTCCACCATTCTCGACAT	30030
Sbjct	57	ATCGAAATGCCGGCGCGCAGTGAGTAAATCACCATCGTGTCCACCATTCTCGACAT	1

CPU time: 0.05 user secs. 0.03 sys. secs 0.08 total secs.